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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,799	09/18/2003	Bruce M. Russell	IR 6320-00	6143

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EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,799

Applicant(s)

RUSSELL, BRUCE M.

Examiner

Laura C. Guidotti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the frame extending inwardly from the peripheral wall towards the open central area below said support members (Claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-4, 8-9, 12, 15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gueret, USPN 4,500,939.

Gueret discloses the claimed invention including a handle (13 or 38), a head mounted to one end of the handle (region including 12 or 41), the head including a cleaning element carrier (12 or 41), the cleaning element carrier being in the form of a peripheral frame (12; see Figures 2-4; or 41 including portions 41c, 41e, and 41f) having an open central area (central open portion of 12, see Figures 2-4; or open area between 29 and 39, shown in Figure 18), a plurality of sets of joints located at spaced intervals of the frame (portions where ribs 2, 6, 7, 8, 9, and 10 connect to 4 and to 12; or portions where ribs 30 connect to 29, Figure 12), a plurality of generally thin support members (2, 6, 7, 8, 9, 10; or 30), cleaning elements secured to and extending outwardly from the support members along the length of the support members (11 or 31), each of the support members mounted against and connected to the outer surface of the peripheral wall of the frame at a set of the joints (at intersections between ribs 2, 6, 7, 8, 9, or 10 and 4; or via 29, 33a, 33b, as shown in Figures 12, 17, and 18), the peripheral wall extending inwardly from the peripheral wall toward the open central area below the support member (see Figures 3 and 4; "below" is in the upper direction as brush is shown with cleaning elements extending outward in Figures 3-4; or see Figure 18),

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each of the support members being disposed transversely and laterally across the open area of the frame (see Figure 1-4 or see Figure 12), the lateral support members being *generally* perpendicular to the transverse support members (as shown in Figure 1 where lateral support members are “generally” perpendicular to transverse support members, particularly at ribs 7 at the tops and sides; or shown in Figure 12) and the lateral support members being spaced equidistant to each other and the transverse support members being spaced equidistant to each other (as shown in Figure 12), the support members being disposed across and spanning the open area of the frame outwardly of the peripheral wall (see Figures 2-4; Figures 12, 18), the support members creating an open lattice pattern having through holes over the open area of the frame to facilitate cleaning of the head (see Figures 1-4; of see Figure 12). Regarding claims 3-4, the cleaning elements are bristles made from a thermoplastic material (11 or 31, Column 1 Lines 67-68 31), and the support members (2, 6, 7, 8, 9, 10; or 31) are “plates” (ribs) made of a thermoplastic material inherently having a melting temperature similar to the melting temperature of the bristle plastic material since they may be integrally molded of the same material (Column 4 Lines 25-27; Column 6 Lines 28-31, Column 5 Lines 6-11). Regarding claim 8, the support members (2, 6, 7, 8, 9, 10; or 31) are plates (ribs) and they are connected to the joints of the frame by a mounting structures, however regarding the processes, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious

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from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (MPEP 2113). Regarding claim 9, the mounting structure comprises a mechanical fit connecting between the plates and the frame (14a, Column 4 Lines 37-44; or the fit of 34a, 34b, 41g, and 41h, see Figures 12 and 18). Regarding claim 12, the cleaning elements are bristles (11 or 31). Regarding claim 15, each of the support member is a "base member" (1 or 29) having integral strands, and the integral strands being cleaning elements (Column 4 Lines 25-32; or Column 6 Lines 28-31, Column 5 Lines 6-11). Regarding claim 18, each of the joints comprises an arcuate seat (entirety of 1; 29, see Figures 17-18), the base member conforming in size and shape to the arcuate seat, and the base member being mounted in the arcuate seat (1 or 29; see Figures).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 in view of Bouchiere, USPN 6,779,851.

Ivory discloses the claimed invention including a handle (11), a head (12) mounted to one end of the handle (see Figure 3), the head including a cleaning element carrier (also 12), the cleaning element carrier being in the form of a peripheral frame

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(14) having an open central area (29), a plurality of joints located at spaced intervals of the frame (joints at intersection between 14 and extending or transverse elements 16-26), a plurality of generally thin support members (16-26), cleaning elements secured along the length of the support members (13), each of the support members mounted and connected to the outer surface of the frame at a set of joints (see Figure 1), each of the support members (16-26) being disposed transversely and laterally across said open area of the frame (Figure 1), the lateral support members being generally perpendicular to the transverse support members (Figure 1) and the lateral support members being spaced equidistant to each other and the transverse support members being spaced equidistant to each other (as shown in Figure 1, lateral support members 16-18 are each equidistant to each other and transverse support members 19-26 are each equidistant to each other), and support members spanning the open area of the frame outwardly of the peripheral wall (see Figure 1) and the support members creating an open lattice pattern having through holes over the open area of the frame (29) to facilitate the cleaning of the head (Column 1 Lines 34-38). Regarding claim 12, the cleaning elements are bristles (13). The support members may be considered to be plates, however Ivory does not disclose that the joints are slots formed in an outer surface of the frame with the plates being mounted in the slots.

Bouchiere discloses a toothbrush that has a cleaning elements carrier (10) with a support member that is a plate (14), there is a peripheral frame extending inwardly below the support member (formed by 10, see Figures), and there are joints being slots formed in the outer surface of the frame ("slots" best shown in Figure 4, the slot is the

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portion where 14a, 14b extend), the plate being mounted in the slot (see Figure 4).

Regarding claims 8-9 and 11, the plate is connected to the joints of the frame by a mounting structure such as ultrasonic welding (Column 2 Lines 51-53) that appears to comprise a mechanical fit connection between the plates and frame (Figure 4).

Regarding claim 10, the mounting structure also may comprise an adhesive connection between the plate and frame (Column 3 Lines 37-39). The cleaning elements are bristles (16).

It would have been obvious for one of ordinary skill in the art to modify the toothbrush support plate and frame of Ivory to further include joints being slots formed in the outer surface of the frames with the plates being mounted in the slots, as Bouchiere teaches, to allow for ultrasonic welding between the different individual components that comprise the toothbrush cleaning element carrier.

4. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 and Bouchiere, USPN 6,779,851 as applied to claim 1 in view of Weihrauch, USPN 6,045,649.

Ivory and Bouchiere disclose all elements above, however do not particularly disclose that the bristles are made of a thermoplastic material and the support members are made of a thermoplastic material having a melting temperature similar to the melting temperature of the bristle thermoplastic material.

Weihrauch teaches a toothbrush wherein the bristles (12) are made of a thermoplastic material and the support members, plate, (such as 10) are made of a thermoplastic material having a melting temperature similar to the melting temperature

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of the bristle thermoplastic material since they are the same materials (Column 4 Lines 40-47; Column 5 Lines 1-5). Regarding claim 5, when they are welded, the completed unit has a portion that is transparent to laser light wavelength and another portion that is laser beam absorbing (Column 4 Lines 48-57). Regarding claim 6, the laser beam absorbing portion ("laser beam-absorbing material"; Column 4 Lines 58-61) is positioned at an interior of the plate ("at the connection point" see Figures; Column 4 Lines 48-65). Regarding claim 7, the laser beam absorbing portion is a weld interface colorant (Column 4 Lines 48-52).

It would have been obvious for one of ordinary skill in the art to have the bristles and made of a thermoplastic material and the support members of Ivory made of a thermoplastic material that are the same and therefore inherently have a melting temperature similar to each other, as Weihrauch teaches, in order to provide beneficial material properties that allow toothbrushes to be manufactured in processes that require laser light wavelengths.

5. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 and Bouchiere, USPN 6,779,851 as applied to claim 12 in view of van Gelder, USPN 6,219,874.

Ivory and Bouchiere disclose all elements above, however do not include bristles with rounded cleaning ends or bristles of varying lengths.

Van Gelder discloses a toothbrush wherein the bristles (3) have rounded cleaning ends (Column 4 Lines 20-22) and the bristles form a pattern of differing length

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(Figures 1 and 3) in order to conform to the buccal surfaces of the teeth (Column 5 Lines 28-30).

It would have been obvious for one of ordinary skill in the art to modify the bristles of Ivory and Bouchiere to have been end rounded and form a pattern of differing length, as van Gelder teaches, so that the ends are more suitable for teeth cleaning and have bristle lengths that conform to a tooth surfaces which are to be cleaned.

6. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 and Bouchiere, USPN 6,779,851 as applied to claim 1 in view of Hohlbein, USPN 6,088,870.

Ivory and Bouchiere disclose all elements above, however do not disclose a base member having integral strands, the integral strands being the cleaning elements.

Hohlbein disclose a toothbrush wherein there are support members (20) that has a base member (28) having integral strands that are the cleaning elements or bristles (16; Figure 5; Column 5 Lines 19-23). Regarding claim 16, each base member (28) is welded to a plate (22; regarding "laser welded", "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) MPEP 2113; Column 5 Lines 8-19), the plate being mounted to the frame at a set of joints (see Figures). Regarding claim 17, the base member is a base

string (20) and is secured to the frame at a set of joints (see Figures 2-5). Regarding claim 18, each of the joints comprises an arcuate seat (see Figures), the base member conforming in size and shape to the arcuate seat (see particularly Figures 4-6), the base member being mounted in the arcuate seat (Figures 4-6).

It would have been obvious for one of ordinary skill in the art to substitute the base members of Ivory and Bouchiere for base members having integral strands of cleaning elements, such as Hohlbein teaches, in order to manufacture the integral strands of bristles and base members in one step that does not require staples to secure the bristles.

Response to Arguments

7. Applicant's arguments filed 02 October 2006 have been fully considered but they are not persuasive.

Regarding the arguments directed to the Drawing Objections, the Examiner does not clearly depict in the drawings "the peripheral wall" of the frame "16" or particularly that said frame extends inwardly from the peripheral wall toward the open central area below the support members. As shown in Figures 1 and 7, there is a carrier "16" that appears to be in the form of a wall, but it is not shown that the frame extends inwardly from such a peripheral wall toward the open central area below the support members. In fact, Figures 2-6 and 8 do not show such a wall and/or frame extending inwardly towards an open central area below the support members. Figures 2-6 and 8 also do not even show such an open central area below the support members.

With respect to Gueret, US 4,500,939, in two embodiments there is a plate formed by a plurality of ribs that are disposed laterally and transversely across the open area of the frame (see Figures 8 and 12). The embodiment previously discussed that does show the central-shaped base plate (Figure 1) does also include lateral and transverse ribs, such as 7, however are not wholly spaced equidistant from each other (however, as mentioned above, the ribs of Figure 12 are spaced equidistant).

Regarding Ivory, the "rails" are in fact lateral and transverse support members that are perpendicular to each other and spaced equidistant from each other (16-26; see rejection above). Again, it would have been obvious for one of ordinary skill in the art to modify the toothbrush support plate and frame of Ivory to further include joints being slots formed in the outer surface of the frames with the plates being mounted in the slots, as Bouchiere teaches, to allow for ultrasonic welding between the different individual components that comprise the toothbrush cleaning element carrier.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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